



# FACT SHEET

## UNITED STATES AIR FORCE

### Space Based Infrared Systems Mission Control Station



The SBIRS Mission Control Station in Aurora, Colorado. Photo: Lockheed Martin.

The Air Force Space-Based Infrared Systems Mission Control Station at Buckley Air Force Base in Aurora, Colo. represents a significant step in the evolution of the nation's space-based infrared systems management by centralizing global command, control, and communications for strategic and tactical warning into a single modern peacetime facility. The SBIRS MCS will replace four legacy Defense Support Program ground control centers.

The closure of the three strategic warning centers, one in the United States and two at overseas locations, as well as the tactical warning center known as ALERT, will provide the Air Force with a cost avoidance of more than \$50 million in operations and maintenance costs and reduce staff required to operate the world-wide system by more than 900 people.

The Space-Based Infrared Systems program is an integrated "system of systems" with multiple space constellations and an evolving ground element. The first step toward a more robust infrared capability in space is the consolidation of multiple command and control, and data processing facilities and units at various locations worldwide into a modern facility capable of handling current and future C4ISR requirements. The need for such consolidation was successfully demonstrated by the Talon Shield Phase 1 system known as Attack and Launch Early Reporting to Theater (ALERT) when it became operational in March 1995. ALERT is a high confidence operational system that provides assured theater missile warning to warfighters worldwide. ALERT is the only component of the tactical event system that monitors all major regional conflict areas and potential hot spots simultaneously by fusing the full Defense Support Program constellation and other data sources into a cohesive picture for tactical users worldwide. Its success, born out of the lessons learned during the 1991 war with Iraq, pointed the way to consolidating and fusing all space-based infrared systems data into a common operational environment and providing a common operational picture to commanders worldwide.

SBIRS Increment 1 is this first step and is designed to replace legacy software with an open architecture software solution that will accommodate both SBIRS High and Low components as they are fielded. The new SBIRS Mission Control Station is expected to begin assuming existing DSP strategic ground station duties in December 2001. The three existing DSP ground stations will be phased out of service in early 2002 after the new facility in Colorado achieves Initial Operational Capability. Additionally, the ALERT tactical center will be phased out of service after the new Mission Control Station takes over its functions.

This consolidated ground segment facility will help the Air Force right size and improve the operational warning picture for the national command authority, the U.S. Space Command, and theater commanders by

providing a single, unambiguous report to users. It will free up additional Air Force resources by reducing the staff required to operate such a system by 70 percent and O&M funding by 25 percent.

### **Ground Stations History and Background**

A satellite ground segment or ground station is the means by which ground controllers communicate with an orbiting vehicle. The site will control the satellite, and gather telemetry data in the form of health and status data, or mission data. In the case of the Defense Support Program, there are three permanent ground sites, one mobile site, and one support facility.



The DSP Ground Station at Buckley Air Force Base, Colo.

Two of the permanent sites are known as Large Processing Stations. These two sites are located at the Overseas Ground Station and the Ground Station in the United States. The first ground station to become operational was an Overseas Ground Station in 1971. The Overseas Ground Station's prime mission is to process health and status data, mission data, and then provide reports to the National Command Authority from any Eastern Hemisphere satellites. In 1975, an additional antenna was constructed at the Overseas Ground Station. The second ground station to become operational was the USA-based station in 1972. It provides reports to the National Command Authority from any Western Hemisphere satellites. In 1982, both facilities were given hardware and software upgrades to support the future capabilities of the newest and planned DSP satellites coming on line, which included the MOS/PIM and the future DSP-1 configurations.

The one support facility, called the Multi-Purpose Facility, was activated in 1974. Its purpose was to provide telemetry and mission data analysis support, software trouble-shooting with upgrade development, and personnel operational training. The Mobile Ground System became operational in 1985. The Mobile Ground System includes the Mobile Ground Terminals, Mobile Communication Terminals, and a Mobile Ground Terminals Operating Base. The reason for Mobile Ground System development was survivability in a hostile environment, such as a nuclear strike or a terrorist attack.

The last permanent fixed site, the European Ground Station, was activated in the early 1980s, and upgraded with its current equipment in 1990. With the tactical success of the DSP satellite system during Operation Desert Storm, the operational command for DSP — the United States Space Command — ordered the permanent establishment of a DSP site to process tactical data. This site has become known as ALERT.

Space Based Infrared System are one of the Air Force's highest priority space systems. SBIRS is designed to incrementally upgrade and eventually replace the Defense Support Program and will provide the nation with critical missile defense and warning capability well into the 21st century.